AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently Amended) A system that renders data in an industrial automation environment, comprising:

a device analyzer that determines properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data; [[and]]

a Human Machine Interface (HMI) ~~an HMI~~ generator that generates code or ~~and/or~~ data for the HMI in accordance with the determined properties of the devices, and delivers ~~the delivers~~ the code or ~~and/or~~ data to the respective devices; and

a processing component that creates one or more multi-dimensional software objects that renders data based at least in part on the properties, limitations, or software plug-ins of the device.

2. (Currently Amended) The system of claim 1, the device analyzer further comprising a memory or [[and]] a processor.

3. (Currently Amended) The system of claim 2, the processor utilizes artificial intelligence ~~techniques~~ to ~~properly~~ render the data.

4. (Currently Amended) The system of claim 3, the processor employs artificial intelligence ~~employed~~ in connection with manipulating a mapping. ~~The system of claim 1, the HMI generator automatically modifies code and/or data associated with an existing HMI for display on a new device for which the HMI was not originally configured, wherein the HMI is modified according to the determined properties of the new device.~~

5. (Currently Amended) The system of claim 1, the HMI generator automatically modifies the code or ~~and/or~~ data associated with an existing HMI for display on a new device for which the existing HMI is [[was]] not ~~originally~~ configured, ~~wherein~~ the code or data [[HMI]] is modified according to the determined properties of the new device. ~~The device analyzer of claim 1, wherein artificial intelligence techniques are employed in connection with manipulating a mapping.~~

6. (Currently Amended) The system of claim 1, employed in a processing environment including ~~comprising~~ at least one of[[:]] a personal computer, [[;]] a desktop computer, [[;]] a laptop computer, [[;]] a personal digital assistant, [[;]] a hand-held computer, [[;]] a cell phone, or [[; and]] a tablet computer.

7. (Currently Amended) The system of claim 1, ~~wherein one or more of~~ the device ~~device(s)~~ coupled to the HMI generator is least one of[[:]] a display, [[;]] a data store, or [[; and]] a server.

8. (Currently Amended) The system of claim 1, the HMI generator further comprising:

~~a processing element that facilitates creation of one or more multi-dimensional software objects that render data in multiple dimensions and/or formats at substantially the same time; and~~

an input [[a]] component that obtains a common data input for the ~~one or more~~ multi-dimensional software objects.

9. (Currently Amended) The system of claim 8, the multi-dimensional software object ~~wherein specific data~~ is assigned specific data ~~to a software object~~.

10. (Currently Amended) The system of claim 9, the specific data varies at least one of size, [[;]] color, [[;]] translational location, [[;]] rotation of a software object, [[;]] text, [[;]] audio, [[;]] video, [[;]] visibility, [[;]] enable or disable ~~enable/disable~~ state, [[;]] object state, [[;]] object type, [[;]] object text, [[;]] trending zoom level, [[;]] audio volume, [[;]] specification of audio clips, [[;]] specification of video clips, [[; and]] starting, or ~~and/or~~ stopping animation.

11. (Currently Amended) The system of claim 8, a change ~~wherein changes~~ to the common data input affects ~~affect~~ the ~~one or more~~ multi-dimensional software objects.

12. (Currently Amended) The system of claim 1, the HMI generator further comprising:

a correlation component that associates one or more software objects with one or more physical devices; and

an object generation [[a]] component that builds ~~generates~~ software objects ~~wherein the one or more software objects are~~ associated with data corresponding to the ~~one or more~~ physical devices, the physical devices affecting changes to the software objects and the software objects affecting changes to the physical devices.

13. (Currently Amended) The system of claim 12, the ~~one or more~~ software objects are imported from an outside source.

14. (Currently Amended) The system of claim 12, further comprising an interface that selects ~~to facilitate selection of~~ data to associate with the physical devices.

15. (Currently Amended) The system of claim 12, further comprising an interface that selects ~~to facilitate selection of~~ specific attributes of software objects corresponding to data associated with the physical devices.

16. (Currently Amended) The system of claim 1, the ~~further comprising:~~ [[a]] processing component [[that]] renders data based at least in part on ~~one or more of~~ a user access data level, a data type, or [[and]] a data state that employs ~~wherein~~ the processing component ~~is employed~~ in an HMI residing in a processing environment.

17. (Currently Amended) The system of claim 16, further comprising a user-based association between displayed data and at least one of[[:]] a user access level, [[;]] a data type, or [[; and]] a data state.

18. (Currently Amended) A system that renders data in an industrial automation environment comprising:

a device analyzer that determines properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data;

an identification [[a]] component that determines if a [[the]] format or a ~~and/or~~ sub-format of [[the]] data is known to the system; [[and]]

an artificial intelligence component that determines the format of unknown data received by a Human Machine Interface (HMI) ~~the HMI~~; and

a processing component that ~~process and~~ renders the data in the HMI into [[in]] a suitable format based at least in part on the properties, limitations, or software plug-ins of the device.

19. (Currently Amended) The system of claim 18, the artificial intelligence component locates and renders a partial data set.

20. (Currently Amended) The system of claim 18, further comprising a memory which stores previously unknown data types for comparison ~~to compare~~ with future data.

21. (Currently Amended) The system of claim 18, the HMI renders the data into at least one of text, [[;]] audio, [[;]] video, [[;]] static images, or ~~image(s); and~~ interactive images. ~~image(s).~~

22. (Currently Amended) The system of claim 18, the processing component provides ~~providing~~ an error message when data cannot be rendered.

23. (Currently Amended) The system of claim 18, the processing component further renders ~~wherein~~ data into suitable formats or sub-formats ~~is rendered in a format and/or sub-format~~ compatible with ~~suitable to the~~ display capabilities of a [[the]] device on which the data is to be presented.

24. (Currently Amended) A method to display data based at least in part on a zoom level, ~~selected by a user~~ comprising:

determining properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data;

converting 3-dimensional data into 2-dimensional data (or vice-versa) based at least in part on properties, limitations, or software plug-ins of the device;

displaying the data in a plurality of disparate views; and

presenting ~~displaying respective~~ views associated with a corresponding zoom level.

25. (Currently Amended) The method of claim 24, further comprising:

presenting data associated with a zoom level chosen by the user; and

suppressing data associated with the [[a]] zoom level chosen by the user.

26. (Currently Amended) The method of claim 24, further comprising assigning the data or [[and]] the zoom levels.

27. (Currently Amended) The method of claim 24, further comprising associating ~~allowing~~ the zoom level and the data ~~to be associated~~ in a non-linear relationship.

28. (Currently Amended) The method of claim 24, further comprising utilizing [[an]] artificial intelligence to infer ~~component capable of inferring~~ a default zoom level based on a user preference.

29. (Currently Amended) A system that recognizes or creates ~~facilitates recognizing and/or creating~~ a software object representing a physical device, comprising:

a software object generator that determines properties, limitations, or software plug-ins associated with a plurality of devices intended for creation of the software objects; and

a Human Machine Interface (HMI) ~~an HMI~~ generator that formats [[the]] data ~~respectively in accordance with the determined properties~~ based at least in part on the properties, limitations, or software plug-ins of the devices.

30. (Currently Amended) The system of claim 29, further comprising an artificial intelligence component that recognizes ~~utilized to recognize~~ a new device added to the system.

31. (Currently Amended) The system of claim 29, further comprising an identification component that recognizes ~~recognizing~~ substantially all the components coupled to the system.

32. (Currently Amended) The system of claim 29, further comprising a mapping component that provides ~~element to provide~~ connectivity to the physical devices.

33. (Currently Amended) A method for ~~that facilitates~~ rendering [[of]] data in an industrial automation environment, comprising:

determining formatting requirements, properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data; [[and]]

formatting the data based at least in part on the properties, limitations, or software plug-ins ~~respectively in accordance with the determined formatting requirements~~ of the devices; and

delivering the formatted data to the respective devices.

34. (Currently Amended) The method of claim 33, further comprising reformatting data associated with an existing Human Machine Interface (HMI) [[HMI]] for delivery to a newly detected device based at least in part on the determined formatting requirements of the newly detected device.

35. (Currently Amended) A method for ~~that facilitates~~ rendering [[of]] data in an industrial automation environment, comprising:

receiving data from a physical device to a Human Machine Interface (HMI); ~~an HMI; and~~

ascertaining formatting requirements, properties, limitations, or software plug-ins associated with the physical device;

comparing ~~the data~~ format of the data to data formats known to the HMI; [[and]]

determining the format of unknown data received by the HMI; and

~~processing; and~~

rendering the data in the HMI into [[in]] a suitable format based at least in part on the properties, limitations, or software plug-ins of the device.

36. (Currently Amended) A method for ~~that facilitates~~ recognizing or ~~and/or~~ creating at least one software object representing at least one physical device, comprising:

mapping data path information to data delivered to the physical device to enable communication between the data and a Human Machine Interface (HMI);

determining Input/Output (I/O) ~~the I/O~~ and communications protocol of the ~~at least one~~ physical device; [[and]]

formatting [[the]] data ~~respectively~~ in accordance with the determined properties of the devices; and

creating a software object that represents ~~representing~~ the ~~device with~~ I/O [[to]] interface with the physical device.

37. (Currently Amended) A method for ~~that facilitates~~ rendering [[of]] data in an industrial automation environment, comprising:

means for determining ~~to determine~~ properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data; [[and]]

means for formatting ~~to format the~~ data based at least in part on the properties, limitations, or software plug-ins ~~respectively in accordance with the determined properties~~ of the devices; and

means for delivering ~~to deliver~~ the formatted data to the respective devices.

38. (Currently Amended) A method for ~~that facilitates~~ rendering [[of]] data in an industrial automation environment comprising:

means for ascertaining formatting requirements, properties, limitations, or software plug-ins associated with a physical device intended for delivery of data;

means for determining whether ~~to determine if~~ a format of [[the]] data is known to the system; and

means for determining ~~to determine~~ the format of unknown data received by a Human Machine Interface (HMI) ~~the HMI~~; and

means for rendering ~~to process and render~~ the data in the HMI into [[in]] a suitable format based at least in part on the properties, limitations, or software plug-ins of the device.

39. (Currently Amended) A method for ~~that facilitates~~ recognizing or ~~and/or~~ creating at least one software object representing at least one physical device, comprising:

means for mapping data path information to data delivered to the device to enable communication between the data and a Human Machine Interface (HMI);

means for generating ~~to generate~~ at least one software object by determining properties associated with ~~a plurality of at least one of~~ the devices intended for creation of the ~~at least one of the~~ software objects; [[and]]

means for formatting ~~to format the~~ data ~~respectively~~ in accordance with the determined properties of the devices; and

means for creating the ~~to create at least one or more~~ software object that represents the ~~objects representing the at least one device with~~ Input/Output (I/O) ~~I/O to~~ interface with the ~~at least one physical~~ device.

40. (Currently Amended) A method to display data based at least in part on a zoom level, ~~selected by a user~~ comprising:

means for determining properties, limitations, or software plug-ins associated with a plurality of devices intended for delivery of data;

means for presenting 3-dimensional data as 2-dimensional data (or vice-versa) based at least in part on properties, limitations, or software plug-ins of the device;

means for displaying ~~to display~~ data in a plurality of disparate views; and

means for associating ~~to display~~ respective views ~~associated~~ with a corresponding zoom level.